

Appl. No 09/470,787
Amendment dated November 26, 2003
Reply to Office action of August 26, 2003

REMARKS/ARGUMENTS

The Examiner rejected to claims 1-3, 7, 8, 15-17, 19-21, 25, 26 and 33 under 35 USC 103(a) as being unpatentable over the combination of U.S. Patent No. 6,556,578 to Silberschatz et al., and U.S. Patent No. 6,304,552 to Chapman et al.

In the Office Action mailed August 26, 2003 the Examiner indicated that claim 4 would be considered patentable if rewritten in independent form. Applicant has instead rewritten claim 1 to substantially include the limitations of claims 2 and 4. Applicant submits that neither the Silberschatz et al. reference nor the Chapman et al. reference, in isolation or in combination with each other, disclose the use of calculation means for calculating an average queue size, \bar{Q}_t , at time t as

$$\bar{Q}_t = \bar{Q}_{t-1} \times (1 - \text{Alpha}) + Q_t \times \text{Alpha}$$

where Q_t is an instantaneous queue size, \bar{Q}_{t-1} is the average queue size at time $t-1$, and Alpha is a queue-length averaging parameter. Applicant submits that the limitation of Alpha being assigned a value between 0 and 1 is simply a presently preferred embodiment, and is not required for the operation of the system. Applicant submits that the inclusion of the above recited calculation means overcomes the art cited by the Examiner.

Applicant has included the matter of claim 2 in amended claim 1, and as a result has cancelled claim 2. Claim 3 has been amended to depend from claim 1. The limitations of claim 4, save for the bounding of Alpha, have been incorporated in amended claim 1. Claim 4 now only serves to introduce the limitation of the bounding of Alpha between 0 and 1.

Applicant submits that Claim 1, as amended, now traverses the rejections raised by the Examiner under 35 USC 103(a), and accordingly requests that the rejection be withdrawn. Claims 3 through 8 and 15-18 all depend from claim 1, directly or indirectly. As a result, claims 3-8 and 15-18 all have the limitations of claim 1, in addition to further restrictions, and are thus novel in view of the art cited against claim 1. Applicant requests that the rejections of claims 3, 7, 8 and 15-18 be withdrawn.

The Examiner indicated that claim 9 would be considered patentable over the cited prior art if it was rewritten in independent form. Applicant has rewritten claim 9 to be in independent

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form. As the Examiner indicated, neither Silberschatz et al., nor Chapman et al., alone or in combination with each other, teach the dividing of the buffer space into N regions, nor the use of:

threshold means for dividing the total queue size into a pre-selected number of N regions, for setting a packet-count threshold in accordance with the average queue size by using a descending staircase function $F(n)$, for discarding one of every $F(n)$ packets when the average queue size is in a buffer region n , $1 \leq n \leq N$ and for resetting the packet counter when a packet is discarded.

As a result, Applicant submits that claim 9 is novel in view of the cited prior art. Applicant has amended claim 13 so that it is now dependent upon claim 9. Claims 10-14 all depend either directly or indirectly from claim 9. As a result, claims 10-14 all have the limitations of claim 9, in addition to further restrictions, and are thus novel in view of the cited art.

The Examiner rejected claims 19 - 21 under 35 U.S.C. 103(a) as being obvious in view of the combination of Silberschatz et al. and Chapman et al. However, the Examiner indicated that claim 22 would be considered patentable if rewritten in independent form. Applicant has instead rewritten claim 19 to substantially include the limitations of claims 20 and 22. Applicant submits that neither the Silberschatz et al. reference nor the Chapman et al. reference or in combination with each other, disclose calculating an average queue size, \overline{Q}_t , at time t as

$$\overline{Q}_t = \overline{Q}_{t-1} \times (1 - Alpha) + Q_t \times Alpha$$

where Q_t is an instantaneous queue size, \overline{Q}_{t-1} is the average queue size at time $t-1$, and $Alpha$ is a queue-length averaging parameter. Applicant submits that the limitation of $Alpha$ being assigned a value between 0 and 1 is simply a presently preferred embodiment, and as such is not required for the operation of the system. As such, Applicant submits that the inclusion of the above recited step of calculating overcomes the art cited by the Examiner.

Applicant has cancelled claim 20 and incorporated its matter in amended claim 19. Claim 22 has been amended and now only serves to introduce the limitation of the bounding of alpha between zero and one. Claim 23 has been amended to fix dependencies.

Applicant submits that claim 19, as amended, now traverses the rejection raised by the Examiner under 35 U.S.C. 103(a). Accordingly, Applicant requests that the rejection be withdrawn. Claims 21 through 26 all depend from claim 19 either directly or indirectly. As a

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result, claims 21 through 26 all have the limitations of claim 19, in addition to further restrictions and thus are novel in view of the cited references. Applicant requests that the rejection of claims 21-26 be withdrawn.

The Examiner indicated that claim 27 would be considered patentable over the cited art if it was rewritten in independent form. Applicant has rewritten claim 27 to be independent. As the Examiner indicated, neither Silberschatz et al. nor Chapman et al., alone or in combination with each other teach any of the step of dividing of the buffer space into N regions, the step of setting a packet-count threshold in accordance with a descending staircase function $F(n)$, and the step of discarding one of every $F(n)$ packets and resetting the packet count when the average queue size is in a buffer region n , $1 \leq n \leq N$. Applicant submits that amended claim 27 is novel in view of the cited art, and accordingly requests that the rejection of the claim be withdrawn.

Applicant has amended claim 31 to depend from amended claim 27. Applicant submits that claims 28 through 32 all depend either directly or indirectly from claim 27. As a result, claims 28 through 32 all have the limitations of claim 27, in addition to further restrictions and thus are novel in view of the cited references. Applicant requests that the rejection of claims 28-32 be withdrawn.

Claim 33 depends from claim 19 which as discussed above is submitted to be patentable over the cited art. Thus, Applicant submits that claim 33 is also patentable over the cited art and requests that the rejection be withdrawn.

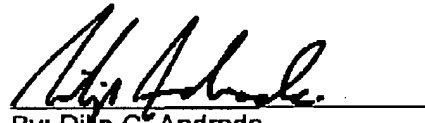
In summary, the Examiner indicated in the Office Action of August 26, 2003 that claims 4 and 22 would be considered acceptable if rewritten in independent form. Applicant has amended claims 1 and 19 to include the limitations of claim 4 and 22, respectively. The matter of claims 2 and 20 were also incorporated into claims 1 and 19 respectively. Claims 2 and 20 have been cancelled. The Examiner indicated that claims 9 and 27 would also be considered acceptable if rewritten in independent form. Applicant has rewritten claims 9 and 27 in independent form. Applicant submits that the remaining claims all depend, either directly or indirectly from one of claims 1, 9, 19 and 27. As these four independent claims overcome all cited art, all claims in the present application are now in condition for allowance, accordingly Applicant requests that the rejections to the claims be withdrawn.

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Applicant has introduced two new independent claims. The resulting claim set has four independent claims. Applicant submits that along with the initial filing fee an excess claim fee was submitted for dependent claims in excess of 20. Applicant now submits an additional excess claim fee of \$43.00 for one independent claim in excess of the three included in the original filing fee. Applicant authorizes the Commissioner to debit this fee from Deposit Account No. 501593. The Commissioner is further authorized to debit an additional amount required, and to credit any overpayment to the above noted deposit account.

Applicant submits that the application is now in condition for allowance.

Respectfully submitted,
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